

## REMARKS

Claims 23-26 are pending in the application. In the Office Action mailed September 11, 2007, claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by PCT Pub. Ser. No. WO97/38810 (Notenboom et al., hereinafter “Notenboom”). Claims 23-26 are further rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,587,111 (Watanabe et al., hereinafter “Watanabe”).

### **I. Rejections under 35 U.S.C. 112, first paragraph**

Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. In particular, claim 23 is rejected because the phrase “persistent insulating region is not clearly described in the specification.” The rejection further asserts that “Applicant is required to use wordings that are clear and precise and derive from the specification.” The Applicants respectfully traverse the rejection.

The Applicants do not disagree with the premise that the Applicant is required to use wordings that are precise and clear. The Applicants respectfully submit that the word “persistent” has an ordinary meaning that meets the requirements of precision and clarity and that is the meaning clearly intended by the Applicants. For example, Webster’s New Twentieth Century Dictionary provides the following definition for “persistent”: “continuing to exist or endure; lasting without change”. Roget’s Thesaurus further provides the following synonyms for “persistent”: “enduring, durable, permanent, constant, unchanged, steadfast, persevering, unfailing”. Both this definition and these synonyms support the term “persistent” as it is used in the Applicants’ claim 23, and as it would be understood by both a person of ordinary skill in the art of the invention and by an ordinary individual in general.

The Applicants respectfully disagree with the premise that the Applicants must use words that “derive from the specification.” While the Applicant is *permitted* to define the words used in the claims within the Applicant’s specification, the Applicant is not *required* to do so. There has never been a requirement that a word used in the claims be defined, or even appear, in the specification. The long-held rule has been that, in the absence of a clear definition of a claim term in the specification, the term will be given its “ordinary” meaning. There is, in fact, a heavy

presumption in favor of the ordinary meaning of claim language, a presumption that can only be overcome by a clear and unambiguous definition in the specification. Indeed, many recent cases have applied the ordinary meaning of a claim term to the interpretation of the scope of the claims even when the term was used in a different context in the specification and the patentee had argued for a different interpretation. A rejection on the basis that a term does not “derive from the specification” is therefore improper.

It is long-settled that where, as here, a claim term is not used in the specification, it will be given its ordinary meaning. The ordinary meaning of “persistent” is clear and precise, both to a person of ordinary skill in the art and to the ordinary individual, and it is this meaning that is clearly intended by the Applicants. In the Applicants’ specification, it is described that “deposited material may be dried of the carrier liquid to create a continuous, hard film. Following patterning, the unexposed areas will remain electrically insulative, since removal of the carrier does not affect the integrity of the capping groups [Specification at page 11, lines 5-8]. Further, “[r]etaining the unexposed film portions may be preferred for applications involving more than a single layer, because the fused and unfused areas form a substantially planar support surface upon which an overlying area can be deposited” [Specification at page 11, lines 13-15]. This description clearly and unambiguously supports an interpretation of “persistent”, as it is used within the Applicants’ claim 23, that is consistent with the ordinary meaning of the term. The Applicants therefore respectfully submit that the rejection of claim 23 under 35 U.S.C. 112, first paragraph is improper, as the term is fully supported by the Applicants’ written description.

Notwithstanding the foregoing arguments, the Applicants note that amendments made to claim 23 herein and discussed below have resulted in the removal of the term “persistent” from claim 23. The Applicants specifically make of record that the term “persistent” was not removed from claim 23 in response to the present rejection. In as much as the amendments have made the rejection moot, as well as in light of the foregoing arguments, reconsideration and withdrawal of the rejection of claim 23 under 35 U.S.C. 112, first paragraph is respectfully requested.

## **II. Rejections under 35 U.S.C. 102(b)**

Claims 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Notenboom. The Applicants respectfully traverse the rejections. The Applicants’ invention differs from the teaching of Notenboom in several important respects including, among other things, that the end

product of Notenboom is a device having sintered conductive material with no surrounding insulating region *in the same layer*, while the Applicants' invention is a device having a patterned sintered conductive material that is at least partially surrounded *in the same layer* by an insulating region comprising electrically isolated nanoparticles.

The Applicants' invention is a device having at least one layer comprising at least two regions: a region formed from a sintered conductive material and an electrically insulating region comprising electrically isolated nanoparticles that at least partially surrounds the conductive region [Specification at least at page 4, line 18 to page 5, line 3, page 11, lines 5-21, and the Abstract, lines 8-11]. As discussed in the Specification, this structure provides an advantage, because the combined regions that comprise the whole layer form a substantially planar support surface upon which an overlying layer can be deposited. This advantage is not provided by the teaching of Notenboom.

Instead, the end product of Notenboom is a sintered conductive material without a surrounding insulating region *in the same layer*. To the extent that the teaching of Notenboom ever comprises a conductive structure partially surrounded by an insulating region of electrically isolated nanoparticles, there is only an insulating substrate on which the conductive material is deposited. The substrate, and hence the "insulating region", is not part of the same layer as the conductive materials, as is taught by the Applicants. Notenboom therefore fails to anticipate or make obvious the Applicants' invention, because Notenboom fails to teach a device having a layer comprising a sintered conductive material having a surrounding insulating region in the same layer.

In order to more particular claim and point out this aspect of the Applicants' invention, the Applicants have herein amended independent claim 23 to recite that the device is comprised of at least one layer, *the layer being comprised of at least two regions, wherein the regions comprise at least one conductive pattern and at least one insulating region at least partially surrounding the conductive pattern*. Support for this amendment is found in the Specification at least at page 4, line 18 to page 5, line 4; page 11, lines 5-18; and in Fig. 2. No new matter is added by this amendment, entry of which is respectfully requested. Because Notenboom does not teach a device having a layer with at least two regions, wherein an insulating region comprised of electrically isolated nanoparticles at least partially surrounds a conductive region in the same layer, Notenboom fails to anticipate or make obvious the Applicants' invention, as does

all other art of record, whether taken alone or in combination. Reconsideration and withdrawal of the rejection of independent claim 23, as amended, as being anticipated by Notenboom is therefore respectfully requested.

Because claims 24-26 depend from currently amended independent claim 23, which is in condition for allowance, claims 24-26 are also in condition for allowance. Reconsideration and withdrawal of the rejection of claims 24-26 as being anticipated by Notenboom is therefore respectfully requested.

Claims 23-26 are further rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe. The Applicants respectfully traverse the rejections. As discussed above with respect to the teaching of Notenboom, the Applicants' invention also differs from the teaching of Watanabe in several important respects including, among other things, that the end product of Watanabe is a sintered conductive film with no surrounding insulating region in the same layer, while the Applicants' invention is a device having a layer comprising at least two regions: a sintered conductive material and an at least partially surrounding electrically insulating region comprising electrically isolated nanoparticles. The substrate of Watanabe, and hence any "insulating region", is not part of the same layer as the conductive materials, as is taught by the Applicants. As discussed above, the Applicants' structure provides the advantage that the combined regions that comprise the whole device form a substantially planar support surface upon which an overlying layer can be deposited. This advantage is not provided by the teaching of Watanabe.

Because Watanabe does not teach a device having a layer with at least two regions, wherein an insulating region comprised of electrically isolated nanoparticles at least partially surrounds a conductive region in the same layer, Watanabe fails to anticipate or make obvious the Applicants' invention, as does all other art of record, whether taken alone or in combination. Reconsideration and withdrawal of the rejection of independent claim 23, as amended, as being anticipated by Watanabe is therefore respectfully requested. Because claims 24-26 depend from currently amended independent claim 23, which is in condition for allowance, claims 24-26 are also in condition for allowance. Reconsideration and withdrawal of the rejection of claims 24-26 as being anticipated by Watanabe is therefore respectfully requested.

### III. Conclusion

Claims 23-26 are pending in the application. Claim 23 has been amended. No new matter is added by this amendment. The Applicants respectfully submit that claims 23-26 are now in condition for allowance, which action is now requested. For this reason, and in view of the foregoing arguments, the Applicants believe that this application is now in condition for allowance, which action is earnestly solicited. Should there remain any unresolved issues, it is respectfully requested that the Examiner telephone Norma E. Henderson, Applicants' Attorney, at 603-437-4400, so that such issues may be resolved as expeditiously as possible.

Respectfully Submitted,



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Date

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